

### **REMARKS**

In view of the Office Action of September 28, 2006, claims 1-10 and 13-20 stand rejected. Claims 1-10 and 13-20 are pending in this application, whereas claims 11 and 12 have been previously cancelled. In this amendment, independent claims 1 and 3 have been amended to clarify various aspects of the invention claimed by Applicants. Claims 2, 4, 8, 10-17 and 19-20 have further been cancelled herein.

Claims 1-4 and 13-20 stand rejected under 35 USC §103(a) as being unpatentable over Liu et al. (U.S. Patent No. 6,513,476) in view of Mielke (U.S. Patent No. 5,778,846). Claims 5-10 further stand rejected in further view of Paro (5,553,585). The Office Action states that the combination of Liu and Mielke has been relied upon to show all structure as claimed by Applicants.

Applicants reiterate their previous position that it is longstanding practice in the art of diesel engine engineering to provide diesel engines having piston diameters of more than 180 mm with an obtuse re-entrant angle of the crown bowl sidewall. Nevertheless, as discussed in Applicants' specification and as shown in prior art, an acute re-entrant angle has not been used in prior art diesel engine pistons having a diameter of over 180mm. (*See paragraph 10 of Applicants' Specification*). In their previous submissions, Applicants have noted the obstacles in designing an acute re-entrant angle for a piston having a diameter of over 180mm.

The office action further states that a change in size is generally recognized as being within the level of ordinary skill in the art and merely a design choice. Nevertheless, creating a larger piston bowl requires more than merely scaling a smaller piston bowl up. For example, Applicants' invention requires specific dimensions which

define the specific shape of the present invention piston bowl (e.g., the re-entrant angle is selected from a range of about 50 degrees to about 77 degrees, the maximum bowl radius is selected from a range of about 87mm to about 94mm, the minimum bowl radius is selected from a range of about 77mm to about 89mm, the maximum bowl depth is about 30mm, the lower curve radius is about 10mm, the upper curve radius is about 6mm, and the piston crown diameter is about 263mm). More importantly, this specific shape allows for Applicants to achieve the desired result of improving engine performance and desired emissions characteristics in a piston having a diameter of over 180mm.

Accordingly, Applicants respectfully request withdrawal of the 103(a) rejections. In view of the foregoing, reconsideration and allowance of all claims are respectfully requested. The Examiner is invited to telephone the Applicants' undersigned attorney at (312) 236-8500 if any unresolved matters remain. The Commissioner is further authorized to charge any applicable fees for filing this amendment to deposit Account No. 50-1039.

Respectfully submitted,  
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